

**The State of New Hampshire  
Before the  
Public Utilities Commission**

**PETITION OF TDS TELECOM FOR LICENSE TO CONSTRUCT  
AND MAINTAIN TELECOMMUNICATIONS CABLES OVER AND  
ACROSS THE NORTH BRANCH RIVER IN THE TOWN OF  
ANTRIM, NEW HAMPSHIRE.**

To the Public Utilities Commission:

Merrimack County Telephone Co. d/b/a TDS Telecom, a public utility engaged in the generation, transmission, distribution and sale of telecommunications in the State of New Hampshire, hereby petitions the Public Utilities Commission, pursuant to the RSA 371:17, for a license to construct and maintain telecommunications lines over and across the Public Waters of the North Branch River in the Town of Antrim, New Hampshire, and in support of its petition states as follows:

1. In order to meet the reasonable requirements of service to the public, TDS Telecom is proposing to construct a 100 pair copper count cable and a 200 pair copper count cable. These new cables will continue to support service to existing customers and are necessary to facilitate construction of a new bridge over said river, under State project number 14944 and Federal Project Number X-A000(927).
2. The proposed facilities will cross the North Branch River to the easterly side of said bridge, but not above the bridge.
3. The location of the proposed crossing is shown on the attached location map, "Exhibit 1 Locus Map."
4. The design and proposed construction of the crossing is shown on the attached Exhibit 2 Plan, Exhibit 3 Profile, Exhibit 4 Pole Detail and Exhibit 5 Pole Loading Analysis."
5. The proposed crossing will occur between two existing utility poles, placed by Public Service of New Hampshire on an approved river crossing license, DE 10-201. The poles are set approximately 115 feet apart. The existing pole on the north side of the North Branch River, TDS utility pole 120, is a class 2, 45 foot tall pole. The existing pole on the south side of the North Branch River,

TDS utility pole 121, is a class 2, 40 foot tall pole. The line will be made up of two materials; Conductor nominal diameter 5/16 in. 7-strand steel EHS and 2 non-supporting cables, added diameter = 2.30 in., weight = 1.57lb/ft which contains 300 twisted pair copper. The strand and non-supporting cable will be sagged using the Heavy Load condition (0° F, 4 pounds psf wind loading and ½ inch radial ice) with a maximum tension of 3503 lbs under that load.

6. Pole loading calculations were developed using conductor information supplied by Public Service of New Hampshire.
7. Pole attachment heights have been engineered using NESC conditions for attachments of communication cables on both TDS poles 120 and 121 to maintain a minimum mid span separation of 31.2” from the PSNH neutral cable with an attachment height at the poles themselves of 52” below the PSNH neutral.
8. The flood water elevation for the North Branch River in this area has been taken from the Flood Insurance Rate Map, Hillsborough County, New Hampshire, Panel 128 of 701, Map Number 33011C0128D, effective date September 25, 2009, issued by the Federal Emergency Management Agency. The 100 year flood elevation for this location is approximately 880 feet. This elevation is based on the National Geodetic Vertical Datum of 1929 (NGVD 29). For the purposes of this petition, the more conservative 100 year flood elevation was used as the basis for the design of the conductor clearance and is higher than the 10 year flood elevation required by NESC.
9. The area calculation of the North Branch River, for a distance of one mile, has been identified as 65+/- acres using note 19 of NESC 232-1. As specified by NESC (Table 232-1.7) bodies of water in the 20 to 200 acre range, must have a minimum clearance, at maximum sag, of 25.5’.
10. Using the above design criteria, the maximum sag of the non-supporting cable and minimum clearances for the crossing over water and land have been determined and designed as follows:
  - A. NESC Heavy, Non-supporting cable – The maximum sag on the copper cable under this condition is 2.37’. The minimum clearance to land is 22.1’. The minimum clearance to the 100 year flood level is 31.4’. These minimums are the most extreme instance and exceed the minimum required Clearance Over Roads, Streets and Other Areas Subject to Truck Traffic, 15.5’, NESC table 232-1 Category 2, and the minimum required Clearances Over Water Areas of between 20 and 200 acres at the 100 year flood level, 25.5’, NESC table 232-1 Category 7.

Under this scenario, assuming similar conditions for power and telephone plant, the separation between the power company neutral and the telephone cables would be 58.4”.

B. 120° Non-supporting cable – The maximum sag on the copper cable under this condition is 1.7’. The minimum clearance to land is (22.8’). The minimum clearance to the 100 year flood level is (32.1’).

11. For minimum mid-span clearances between TDS and PSNH facilities, the following conditions apply:

A. PSNH Neutral @ NESC Heavy to TDS at 30° F (no wind, no ice loading) 42.6”. This represents worst case scenario conditions.

12. There are no New Hampshire Department of Environmental Services or NH Department of Transportation permits necessary specifically for the construction of this crossing.

13. As TDS and PSNH are the only attaching entities, no additional clearance requirements have been identified.

14. The proposed crossing has been designed and will be constructed, in accordance with NESC ANSI C2 2007 Grade B construction standards. The proposed crossing will be maintained and operated by TDS Telecom, its affiliates and contractors in accordance with the NESC.

15. TDS Telecom submits that the license petitioned for herein may be exercised without substantially affecting the rights of the public in the public water of the North Branch River. Minimum safe line clearance above the waters surface and affected shorelines will be maintained at all times. The use and enjoyment by the public of the North Branch River will not be diminished in any material respect as a result of the overhead line crossing.

WHEREFORE, TDS TELECOM respectfully requests that the New Hampshire Public Utilities Commission:

a. Find that the license petitioned for herein may be exercised without substantially affecting the public rights in the public water which are the subject of this petition.

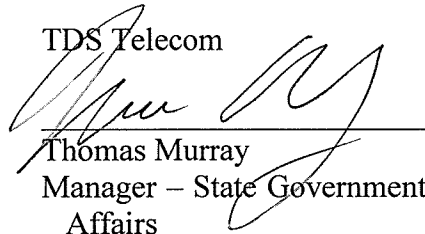
b. Grant TDS Telecom a license to construct and maintain communication lines over and across the public waters of the North Branch River in Antrim, New Hampshire, as specified in the petition; and

c. Issue an Order Nisi and orders for its publication

Dated at \_\_\_\_\_ this 11<sup>th</sup> day of April, 2011.

Respectfully submitted,

TDS Telecom

A handwritten signature in black ink, appearing to read "Tom Murray", is written over a horizontal line.

Thomas Murray  
Manager – State Government  
Affairs

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